

FIRE FACT NO. 037 CHECKLIST(s) : 06

TITLE : SMOKE DETECTION AS COMPENSATORY MEASURES

CHECKLIST ITEM(s) : 06-31, 06-32, 06-45

REFERENCE(s) : 91-101/1-5.4

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Existing buildings are allowed to remain in operation unless they have conditions considered "distinctly hazardous" to the occupants. A "distinctly hazardous" condition is generally defined as the lack of minimum exiting or other fire safety features that would not allow a speedy exit from a building. When a "distinctly hazardous" condition is identified by a Kansas State Fire Marshal inspector, the owner or operator must provide documentation to either clarify the use of the building, provide a proposed corrective timetable to correct the identified problem, or offer alternative fire safety features believed to provide equivalent protection.

On a case by case basis, the Kansas State Fire Marshal's Office may accept a complete or partial smoke detection system as a compensatory fire safety feature. This is the most common compensatory measure for the following three "distinctly hazardous" conditions in buildings: 1) a non-rated stair enclosure for buildings three stories high without fire escapes from every room; 2) a dead-end corridor exceeding distance specified for the occupancy type; and 3) where basement atmospheric separation from other floors is not present.

*The smoke detection system is typically acceptable when all of the following are provided:*

- 1) Smoke detectors are installed in the common atmosphere of the entire exit path.
- 2) The system is designed and installed in accordance with National Fire Protection Association (NFPA) 72 – the national fire alarm code adopted in Kansas.
- 3) New equipment is powered from the building electrical power.
- 4) Plans of the new or modified system are submitted to the Kansas State Fire Marshal for review and acceptance.
- 5) System will be *serviced, tested, maintained, and documented* as required by standards or by the Kansas Buildings Fire Safety Handbook (a minimum of an annual inspection and maintenance by **qualified person or firm**).

This acceptance is subject to a final inspection by an authorized representative of the Kansas State Fire Marshal's Office.

Due to the individual nature of each building, these and other "distinctly hazardous" conditions may be remedied by a smoke detection system. This concept is based on the automatic early detection and notification of the occupants and their speedy evacuation prior to the exit way being obstructed by smoke. These compensatory measures may be considered as providing an acceptable level of life safety for an existing facility when **all** components (equipment, design, installation, and maintenance) meet or exceed NFPA 72 requirements. In any case, it is the facility's responsibility to initiate consideration and to maintain copies of any supporting documentation when accepted.

